

AN ORDINANCE OF THE CITY OF FRISCO, TEXAS, REPEALING ORDINANCE NO. 08-01-10; AMENDING DIVISION 2 (ELECTRICAL CODE), ARTICLE IV (TECHNICAL CODES), CHAPTER 18 (BUILDINGS AND BUILDING REGULATIONS), PART II OF THE FRISCO CODE OF ORDINANCES; ADOPTING THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE, SAVE AND EXCEPT THE DELETIONS AND ADDITIONS SET FORTH HEREIN; REGULATING THE CONSTRUCTION, ALTERATION, REMOVAL, USE AND MAINTENANCE OF ANY ELECTRICAL WIRING, APPARATUS, DEVICE AND/OR SYSTEM WITHIN THE CITY OF FRISCO, TEXAS; PROVIDING FOR A PENALTY FOR THE VIOLATION OF THIS ORDINANCE; PROVIDING FOR REPEALING, SAVINGS AND SEVERABILITY CLAUSES; PROVIDING FOR AN EFFECTIVE DATE; AND PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF.

WHEREAS, the City Council of the City of Frisco, Texas ("City Council") has investigated and determined that it would be advantageous, beneficial and in the best interest of the citizens of the City of Frisco, Texas ("Frisco") to amend Division 2 (Electrical Code), Article IV (Technical Codes), Chapter 18 (Buildings and Building Regulations), Part II of the Frisco Code of Ordinances by adopting the 2011 Edition of the National Electrical Code, save and except the deletions and additions set forth below; and

WHEREAS, the City Council has investigated and determined that in order to most effectively make the deletions and additions necessary to Division 2 (Electrical Code), Article IV (Technical Codes), Chapter 18 (Buildings and Building Regulations), Part II of the Frisco Code of Ordinances, it is in the best interest of the citizens of Frisco to repeal Ordinance No. 08-01-10 (Electrical Code), in its entirety, and replace it with this Ordinance, adopting the 2011 Edition of the National Electrical Code, save and except the deletions and additions set forth below.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS:**

SECTION 1: Findings Incorporated. The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

SECTION 2: Repeal of Ordinance No. 08-01-10. Ordinance No. 08-01-10 is hereby repealed, in its entirety, and replaced by this Ordinance. The effective date of the repeal discussed in this Section shall not occur until the effective date of this Ordinance at which time Ordinance No. 08-01-10 shall be repealed. Such repeal shall not abate any pending prosecution and/or lawsuit or prevent any prosecution and/or lawsuit from being commenced for any violation of Ordinance No. 08-01-10 occurring before the effective date of this Ordinance.

SECTION 3: Amendment to Division 2 (Electrical Code), Article IV (Technical Codes), Chapter 18 (Buildings and Building Regulations), Part II of the Frisco Code of Ordinances. Division 2 (Electrical Code), Article IV (Technical Codes), Chapter 18 (Buildings and Building Regulations), Part II of the Frisco Code of Ordinances is hereby amended for the sole purpose of adopting new electrical code regulations as set forth in the National Electrical Code, including Annex G, copyrighted by the National Fire Protection Association, save and except the deletions and additions set forth in **Exhibit "A"**, attached hereto and incorporated herein for all purposes, regulating the construction, alteration, removal, use and maintenance of any electrical wiring, apparatus, device and/or system within Frisco ("2011 National Electrical Code"). The 2011 National Electrical Code, including Annex G, is made a part of this Ordinance as if fully set forth herein. Three (3) copies of the 2011 National Electrical Code are on file in the office of the City Secretary of Frisco being marked and designated as the 2011 National Electrical Code. The deletions and additions set forth in **Exhibit "A"** are located on Frisco's website under Development Services.

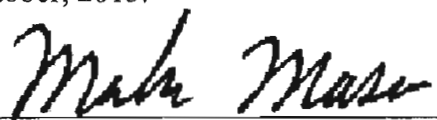
SECTION 4: Savings/Repealing Clause. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict; but such repeal shall not abate any pending prosecution for violation of the repealed ordinance, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinance. Any remaining portion of conflicting ordinances shall remain in full force and effect.

SECTION 5: Penalty Provision. Any person, firm, corporation or business entity violating this Ordinance shall be deemed guilty of a misdemeanor, and upon conviction therefore, shall be fined a sum not exceeding TWO THOUSAND AND NO/DOLLARS (\$2,000.00), and each and every day that such violation continues shall be considered a separate offense; provided, however, that such penal provision shall not preclude a suit to enjoin such violation. Frisco retains all legal rights and remedies available to it pursuant to local, state and federal law.

SECTION 6: Severability. If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason, held to be unconstitutional or invalid by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. Frisco hereby declares that it would have passed this Ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, and phrases be declared unconstitutional.

SECTION 7: Effective Date. This Ordinance shall become effective upon its passage and publication as required by the City Charter and by law.

**DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS**, on this 1<sup>st</sup> day of October, 2013.

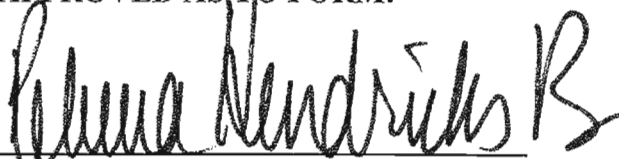
  
\_\_\_\_\_  
Maher Maso, Mayor

ATTESTED AND CORRECTLY  
RECORDED:

  
Jenny Page, City Secretary



APPROVED AS TO FORM:



Abernathy, Roeder, Boyd & Joplin, P.C.  
Rebecca Hendricks Brewer, City Attorneys

Date(s) of Publication: October 4th and October 11, 2013, *Frisco Enterprise*

**Exhibit "A"**  
**CITY OF FRISCO DELETIONS/ADDITIONS**  
**2011 NATIONAL ELECTRICAL CODE<sup>1</sup>**

The following deletions and additions to the 2011 National Electrical Code are hereby approved and adopted (*i.e.* deletions evidenced by ~~striketrough~~ and additions evidenced by underline)<sup>2</sup>:

**Chapter 1 General** of the 2011 National Electrical Code is amended as follows:

**Article 100 Definitions** of the 2011 National Electrical Code is amended as follows:

**Intersystem Bonding Termination.** A device that provides a means for connecting bonding conductors for communication systems and other systems such as metallic gas piping systems to the grounding electrode system. Also refer to Section G2411 (310) Electrical Bonding in the 2012 International Residential Code, adopted by Frisco, as it currently exists or may be amended.

**Article 110 Requirements for Electrical Installations** of the 2011 National Electrical Code is amended as follows:

**110.2 Approval.** The conductors and equipment required or permitted by this Code shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

**Exception:** Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ. Manufacturer's self-certification of any equipment shall not be used as a basis for approval by the AHJ.

Informational Note: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of Approved, Identified, Labeled, and Listed.

**110.14 Electrical Connections.** *[Paragraph remains unchanged.]*

**(A) Terminals.** Connection of conductors to terminal parts shall ensure a thoroughly good connection without damaging the conductors and shall be made

<sup>1</sup> Unless otherwise expressly provided herein, all phrases, words and/or terms used herein shall have the same meaning ascribed to the same in the 2011 National Electrical Code (regardless of whether such phrases, words and/or terms are italicized herein).

<sup>2</sup> Other italicized and bold notations are provided throughout for informational purposes only. By way of example only, "*[Paragraph remains unchanged.]*".

by means of pressure connectors (including set-screw type), solder lugs, or splices to flexible leads and shall be tightened to manufacturer's torque specifications. Connection by means of wire-binding screws or studs and nuts that have upturned lugs or the equivalent shall be permitted for 10 AWG or smaller conductors. Terminals for more than one (1) conductor and terminals used to connect aluminum shall be so identified.

**Chapter 2 Wiring and Protection** of the 2011 National Electrical Code is amended as follows:

**Article 210 Branch Circuits** of the 2011 National Electrical Code is amended as follows:

**210.21 Outlet Devices.** *[Remains unchanged.]*

**(3) Receptacle Ratings.** Where connected to a branch circuit supplying two (2) or more receptacles or outlets, receptacle ratings shall conform to the values listed in Table 210.21(B)(3), or where rated higher than 50 amperes, the receptacle rating shall not be less than the branch-circuit rating. The maximum number of receptacle outlets connected to 15 AMP general-purpose branch circuit shall be ten (10). The maximum number of receptacle outlets connected to a 20 AMP general-purpose branch circuit shall be thirteen (13).

**Article 230 Services** of the 2011 National Electrical Code is amended as follows:

**230.71 Maximum Number of Disconnects.**

**(A) General.** *[Paragraph remains unchanged.]*

**Exception: Multi-occupant buildings.** Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.

**Article 240 Protection of Conductors** of the 2011 National Electrical Code is deleted as follows:

**~~240.91 Protection of Conductors.~~** *[Entire subsection deleted.]*

**Article 250 Grounding and Bonding** of the 2011 National Electrical Code is amended as follows:

**250.62 Grounding Electrode Conductor Material.** The grounding electrode conductor shall be of copper, ~~aluminum or copper-clad aluminum.~~ The material selected shall be resistant to any corrosive condition existing at the installation or shall be protected against corrosion. The conductor shall be solid or stranded, insulated, covered, or bare.

**250.118 Types of Equipment Grounding Conductors. [Paragraph remains unchanged.]**

- (1) A copper, ~~aluminum, or copper-clad aluminum~~ conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a bus bar of any shape. Use of aluminum cable assemblies of 1/0 and larger or aluminum buss bars is allowed.
- ~~(8) Armor of Type AC cable as provided in 320.108.~~
- (15) All raceways and cable assemblies shall contain an insulated equipment grounding conductor per Table 250.66 and 250.122.

Informational Note: For effective ground-fault current path, see 250.2 Definition.

**Chapter 3 Wiring Methods and Materials** of the 2011 National Electrical Code is amended as follows:

**Article 300 Wiring Methods** of the 2011 National Electrical Code is amended as follows:

**300.1 Scope.**

- (A) **All Wiring Installations.** This Article covers wiring methods for all wiring installations unless modified by other articles. All electrical conductors for commercial, office, or industrial installation shall be installed in approved conduits or raceways, regardless of type of construction.

**300.11 Securing and Supporting.**

- (A) **Secure in Place.** *[Paragraph remains unchanged.]*

**Exception:** Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area. Not more than two raceways or cables supported per wire with a maximum nominal metric designation 16 (trade size 1/2").

**Article 310 Conductors for General Wiring** of the 2011 National Electrical Code is amended as follows:

**310.15 Ampacities for Conductors Rated 0-2000 Volts.**

- (B) **Tables.** *[Remains unchanged.]*

- (7) **120/240-Volt, 3-Wire, Single Phase Dwelling Services and Feeders.** For individual dwelling units of one-family, two-family, and multi-family dwellings, conductors, as listed in Table 310.15(B)(7), shall be permitted as 120/1240-volt, 3-wire, single-phase service-entrance conductors, service-lateral conductors, and feeder conductors that serve as the main power feeder to each dwelling unit and

are installed in raceway or cable with or without and equipment grounding conductor. For application of this section, the main power feeder shall be the feeder between the main disconnect and the panel board that supplies, either by branch circuits or by feeders, or both, all loads that are part or associated with the dwelling unit. The feeder conductors to a dwelling unit shall not be required to have an allowable capacity rating greater than their service-entrance conductors. The grounded conductor shall be permitted to be smaller than the ungrounded conductors, provided the requirements of 215.2, 220.61, and 230.42 are met. This section shall not be used in conjunction with 220.82. Aluminum has been removed for single-family dwellings from Table 310.15 (B) (7).

### **310.106 Conductors.**

**(A) Minimum Size of Conductors.** The minimum size of conductors shall be as shown in Table 310.106(A), except for low voltage control circuits as permitted elsewhere in this code.

**(B) Conductor Material.** Conductors in this Article shall be of aluminum, copper clad aluminum, or copper unless otherwise specified. Use of aluminum 1/0 and larger is allowed for multifamily and commercial use only. All grounding and bonding conductors shall be of copper and be sized per 250.66 and 250.122. Refer to amendments in Article 250 for cable assemblies.

~~Solid aluminum conductors 8, 10, and 12 AWG shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. For multifamily and commercial use only, stranded aluminum conductors 8 AWG 1/0 through 1000 kcmil marked as Type RHH, RHW, XHHW, THW, THHW, THWN, THHN, service-entrance Type SE Style U and SE Style R shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. Documentation of all installations shall be provided for torque and terminations as required by Article 110.~~

**Table 310.106(A) Minimum Size of Conductors**

Conductor Voltage Rating (Volts)	Minimum Conductors Size (AWG)			
	Copper	Aluminum or Copper-Clad <u>feeders allowed</u>	Aluminum	<u>(only</u>
0 - 2000	14 <u>12</u>		12	<u>1/0</u>
2001 - 5000	8		8	<u>1/0</u>
5001 - 8000	6		6	<u>1/0</u>
8001 - 15000	2		2	<u>1/0</u>
15,001 - 28,000	1		1	<u>1/0</u>
28,001 - 35,000	1/0		1/0	

**Article 334 Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS of the 2011 National Electrical Code is amended as follows:**

### **334.12 Uses Not Permitted.**

#### **(A) Types NM, NMC, and NMS. *[Paragraph remains unchanged.]***

- (1) In any dwelling or structure not specifically permitted in 334.10(1), (2), and (3). Additionally, types NM, NMC, and NMS cables are not to be used in Steel Frame Assemblies.
- (11) In building where it would be required to pass through factory or field punched, cut, or drilled slots or holes in non-combustible framing members.
- (12) In any commercial office or industrial installations.

**Chapter 5 Special Occupancies** of the 2011 National Electrical Code is amended as follows:

**Article 500 Hazardous (Classified) Locations, Classes I, II, and III, Divisions 1 and 2** of the 2011 National Electrical Code is amended as follows:

#### **500.8 Equipment. *[Paragraph remains unchanged.]***

##### **(A) Suitability.** Suitability of identified equipment shall be determined by one of the following:

- (3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or an owner's engineering judgment signed and sealed by a qualified Licensed Professional Engineer.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information. Guidelines for certificates may be found in ANSI/ISA 12.00.02, Certified Standard for AEx Equipment for Hazardous (Classified) Locations.

**Article 505 Zone 0, 1, and 2 Locations** of the 2011 National Electrical Code is amended as follows:

#### **505.7 Special Precaution. *[Paragraph remains unchanged.]***

##### **(A) Implementation of Zone Classification System.** Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified persons-Licensed Professional Engineer.

**Chapter 6 Special Equipment** of the 2011 National Electrical Code is amended as follows:

**Article 680 Swimming Pools, Fountains, and Similar Installations** of the 2011 National Electrical Code is amended as follows:

#### **680.25 Feeders. *[Paragraph remains unchanged.]***



- (A) **Wiring Methods.**
- (1) **Feeders.** *[Paragraph remains unchanged.]*

(7) Nonmetallic-sheathed cable

(8) Type SE cable

**Annex H Administration and Enforcement** of the 2011 National Electrical Code is amended as follows:

~~80.15 Electrical Board.~~ *[Entire subsection deleted.]*

**80.19 Permits and Approvals.** *[Paragraph remains unchanged.]*

**(E) Fees.** *[Paragraph remains unchanged.]* The fees for electrical work shall be as in Frisco's Master Fees Ordinance, as amended.

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### Index

(The Index is provided for informational purposes only to note the location of the deletions/additions in the 2011 National Electrical Code as set forth in this Ordinance)

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**END OF EXHIBIT "A"**